

JACADS: Defining a Moment in Chemical Weapons History

Background

The Johnston Atoll Chemical Agent Disposal System (JACADS) is the U.S. Army's first fully integrated chemical weapons disposal facility and is located on Johnston Island, approximately 825 miles southwest of Hawaii. The Army's Program Manager for Chemical Demilitarization (PMCD) built JACADS in 1986 to destroy the island's stockpile of chemical agent and munitions, which totaled more than six percent of the nation's total stockpile. Since then, JACADS has served as a model for chemical weapons disposal, producing many lessons learned that are being passed along to the eight remaining chemical weapons stockpile sites located across the United States.



On November 29, 2000, the Army destroyed the last of the Johnston Island stockpile of chemical agent and munitions and is now preparing to close JACADS. Because Congress and the Chemical Weapons Convention mandated that the Johnston Island stockpile be destroyed, this is a major milestone for the Army and the entire PMCD team.

Working Together Towards Closure

JACADS is the first U.S. chemical agent disposal facility to close under modern environmental regulations. In this respect, new ground is being broken for both the Army and the Environmental Protection Agency (EPA), which administers the Army's Resource Conservation and Recovery Act (RCRA) permit. The Army is working with EPA Region IX to establish cleanliness criteria for the buildings, structures and associated equipment at JACADS. The RCRA permit requires that the Army remove from the island all associated hazardous wastes and contamination generated at JACADS, as well as all equipment and systems necessary for disposal operations. Prior to final closure, analyses will be performed for each structure, area and hazardous waste management unit to ensure that they meet the established cleanliness criteria.

Johnston Atoll Chemical Agent Disposal System



The Great Frigatebird is one of the many species of birds that can be found on Johnston Island.

The Army and EPA Region IX worked together to prepare the JACADS closure plan, which details the steps required for "clean closure." This teamwork will continue as additional modifications to the RCRA permit are needed throughout the closure process. Along with EPA

Region IX, other oversight agencies such as the Department of Health and Human Services and the National Academy of Sciences' National Research Council will continue to play a role to guarantee that the people, wildlife and environment on Johnston Islandand in the Pacific area—are safeguarded.

Public Outreach

The Army regards public outreach as a top priority and encourages stakeholder participation in its decision-making process. The Army sought public input throughout operations and will continue to do so during the closure of the facility. This feedback was gathered through surveys, the PMCD Web site, public availability sessions, environmental forums and meetings with Pacific area government officials. These outreach efforts extend from the Pacific to the surrounding communities of the eight remaining stockpile sites in the continental United States.



JACADS Site Project Manager Gary McCloskey talks to stakeholders at a Hawaii public availability session.

JACADS: Frequently Asked Questions

Why was JACADS constructed?

The facility's mission was to destroy the chemical weapons stockpiled on Johnston Island, which constituted more than six percent of the nation's total stockpile and included more than 410,000 munitions and 2,000 agent tons.

When did the Army begin disposing of chemical weapons at JACADS?

The Army began disposal operations at JACADS on June 30, 1990. Operations began with testing, which was conducted until 1993 and demonstrated that the JACADS facility could operate safely with any munition or agent type while protecting workers and the environment.



What technology was used to destroy the chemical weapons and agent stored on Johnston Island?

Incineration, a proven method for safe chemical weapons disposal, was the technology of choice at JACADS. During the incineration process, plant workers removed munitions from their



pallets and placed them on process-feed conveyors. Automated equipment was used to disassemble the munitions, remove explosive components and drain chemical agent. Agent and explosive components were then incinerated at high temperatures, and the munition casings were thermally decontaminated.

When does the Army plan to close JACADS?

The Army completed the disposal of stockpiled munitions, bulk containers and agent at JACADS on November 29, 2000. Overall, the Army expects that closure activities will take approximately 33 months.

Why must the JACADS facility close?

There are two factors driving facility closure: Public Law 99-145 and RCRA regulations. Public Law 99-145 requires that chemical weapons destruction facilities, such as JACADS, be cleaned, dismantled and disposed of in accordance with applicable laws and regulations when the facilities are no longer needed. RCRA regulations require that hazardous waste storage and disposal facilities that cease operations close in a manner that ensures they will not pose a future threat to neighboring communities or the environment.

What is required to close the JACADS facility?

All chemical weapons disposal equipment, systems and associated wastes must be removed. The Army also is responsible for cleaning the facility and the surrounding area so that they are safe and will not be a hazard for any future programs on Johnston Island.



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army, Pacific soldier unloads the last pallet tions to be destroyed at the facility.

Who will oversee the closure effort?

EPA Region IX, the National Academy of Sciences' National Research Council and the Department of Health and Human Services will oversee closure efforts. These and other organizations serve in an oversight capacity to ensure that the highest levels of protection are provided to the environment, the Johnston Island workforce and the public.

Will the Army clean the entire island, including the contamination that existed before JACADS was constructed?

The Army must clean the JACADS facility and surrounding lands of hazardous contamination that resulted from chemical agent disposal activities. As a tenant on Johnston Island, however, the Army is not responsible for cleaning contamination that preceded JACADS operations.

How will wastes generated by JACADS be handled?

Part of closing JACADS includes disposing of secondary waste generated by operations at the facility. The term "secondary waste" refers to the by-products produced from the chemical weapons disposal and closure processes. The wastes may be handled in one of two ways. Some wastes may be disposed of within the JACADS facility. Other non-agent contaminated wastes may be shipped to an appropriate mainland hazardous waste disposal facility for treatment and disposal.



What steps have been taken by the Army to increase the highlevel coordination necessary to determine the future state of Johnston Atoll?

The Army is working with the U.S. Air Force, the Defense Threat Reduction Agency, EPA Region IX and resource trustees to establish a coordinated effort for the cleanup and closure of Johnston Atoll.

A JACADS worker monitors operations from the facility's control room.



The Johnston Atoll National Wildlife Refuge is home to more than 300 species of fish and 32 species of coral.

What is the Army doing to ensure that Johnston Island is left in an environmentally sound condition once JACADS is closed?

Studies by independent biologist Dr. Phil Lobel, of the Boston University Marine Program, and scientist Elizabeth A. Schreiber, Ph.D., of the Ornithological Council, have shown a healthy marine and seabird environment throughout JACADS operations. Additionally, the Small Group Ecological Risk Assessment Team, of which the Army is an integral member, evaluates methods used to determine the environmental impacts of JACADS operations. The wildlife on Johnston Island will continue to be monitored extensively and soil semples will be compared to printing Pacific environments to



and soil samples will be compared to pristine Pacific environments to determine if pollutants are occurring naturally. Individual existing native species will continue to be monitored to show that the species are not at risk. As part of the risk assessment, the Army also will examine the possible impacts on creatures returning to the island after JACADS closure is complete.

What will happen to Johnston Island once the Army has completed the closure of JACADS?

Once the Army completes JACADS closure activities it will turn remaining structures and lands over to the U.S. Air Force, the current landowner of Johnston Island. The Air Force is evaluating turning Johnston Atoll over to the U.S. Department of the Interior, the department that operates the wildlife refuge.



For More Information

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For more information about the Army's closure operations at JACADS, visit the PMCD Web site at http://www-pmcd.apgea.army.mil/csdp/sl/jacads/index.asp or call (800) 488-0648.



U.S. ARMY PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION